

(No Model.)

R. P. MORGAN, Jr.

RAILWAY RAIL JOINT.

No. 297,283.

Patented Apr. 22, 1884.

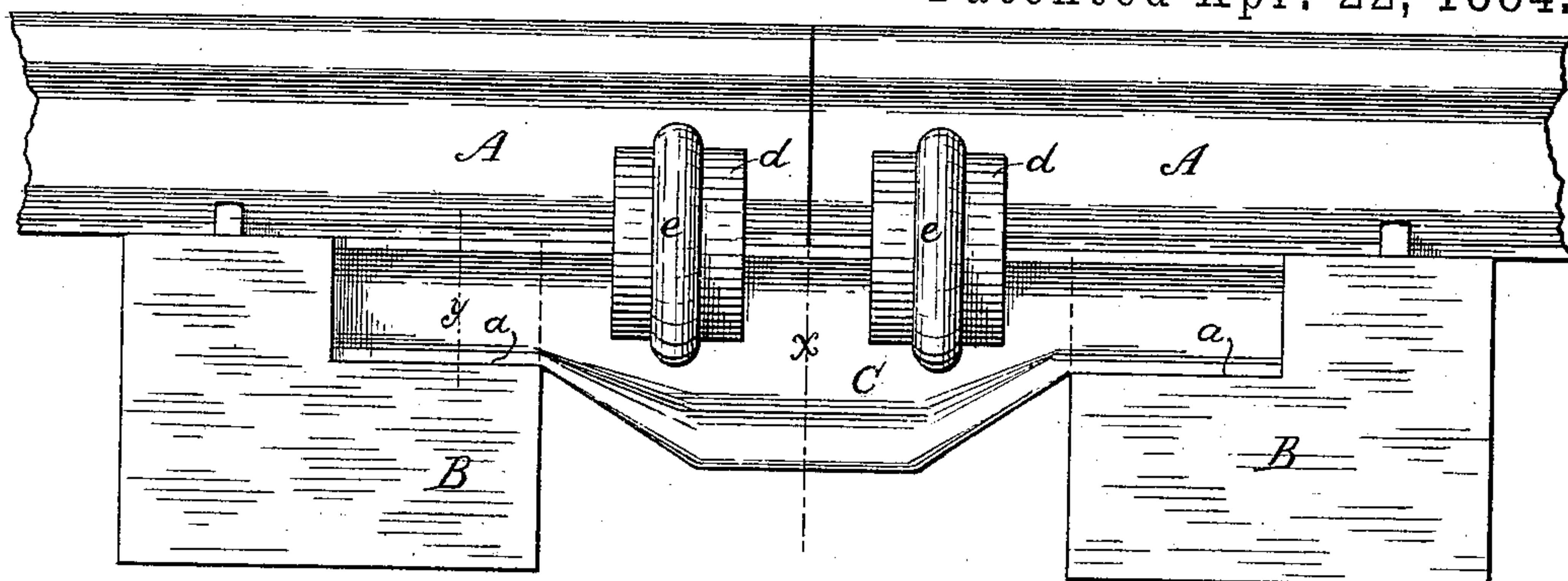


Fig. 1.

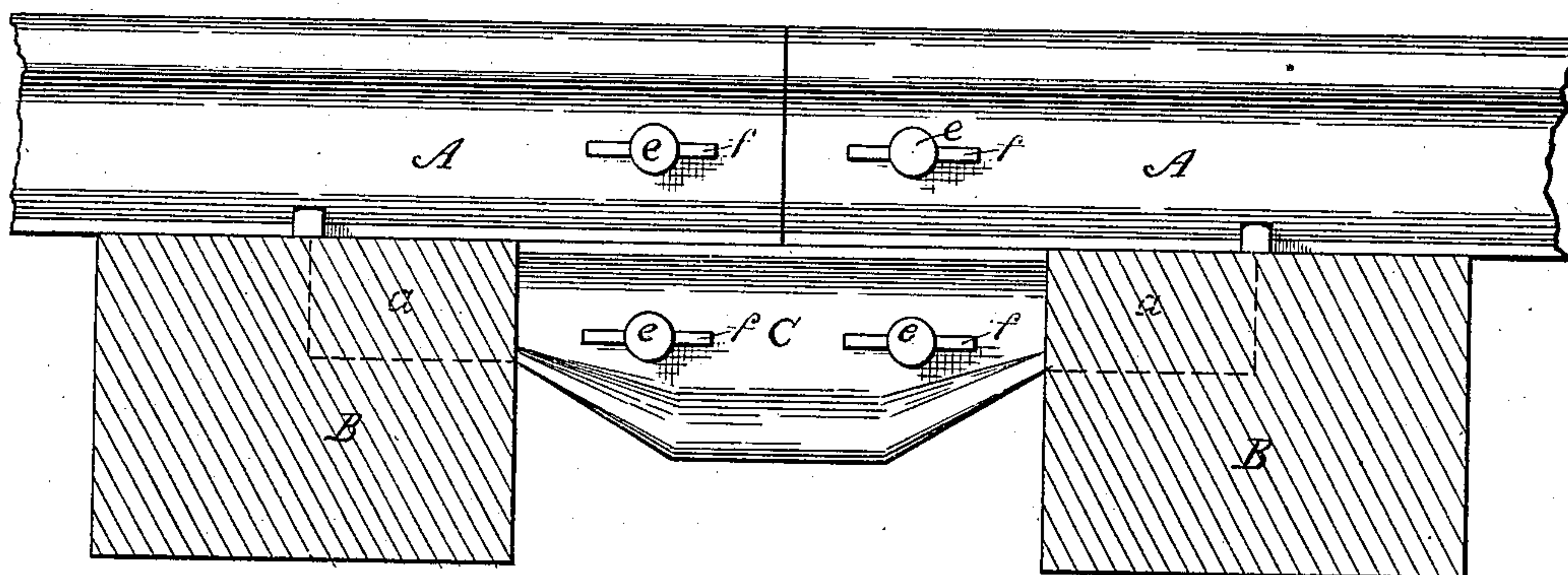


Fig. 2.

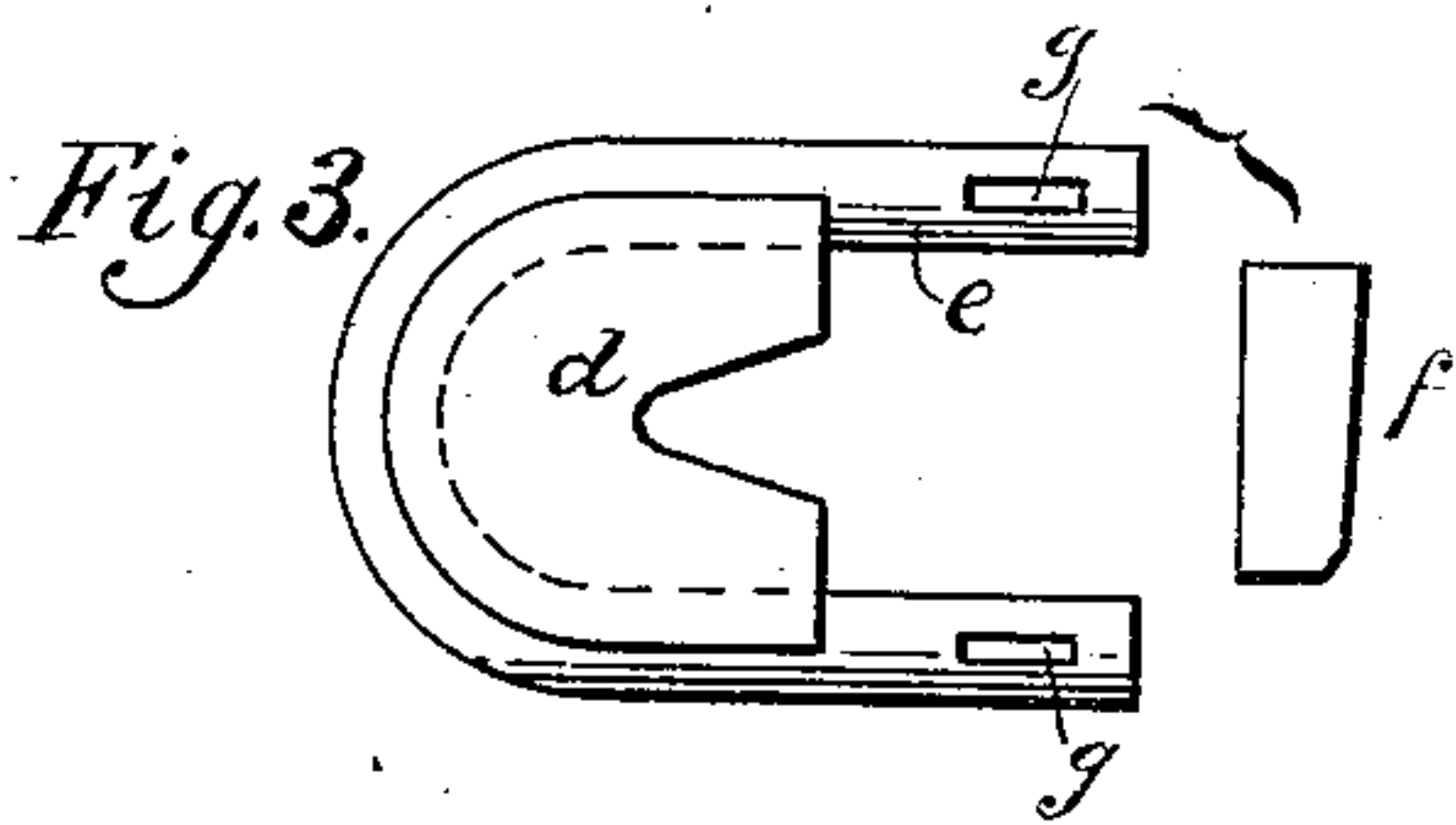


Fig. 3.

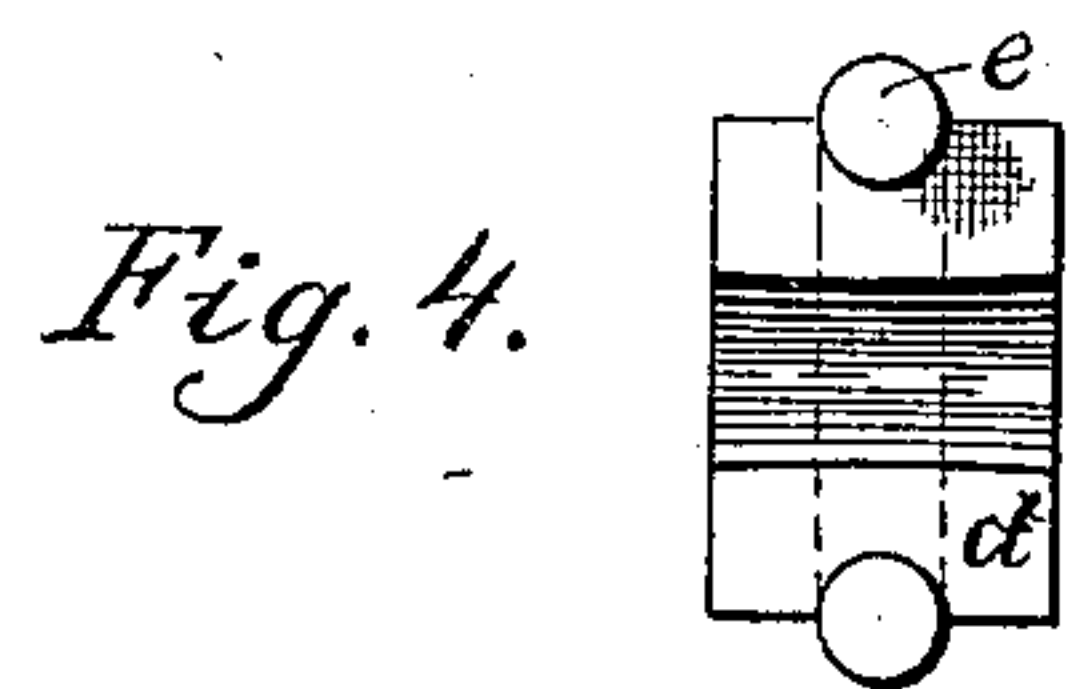


Fig. 4.

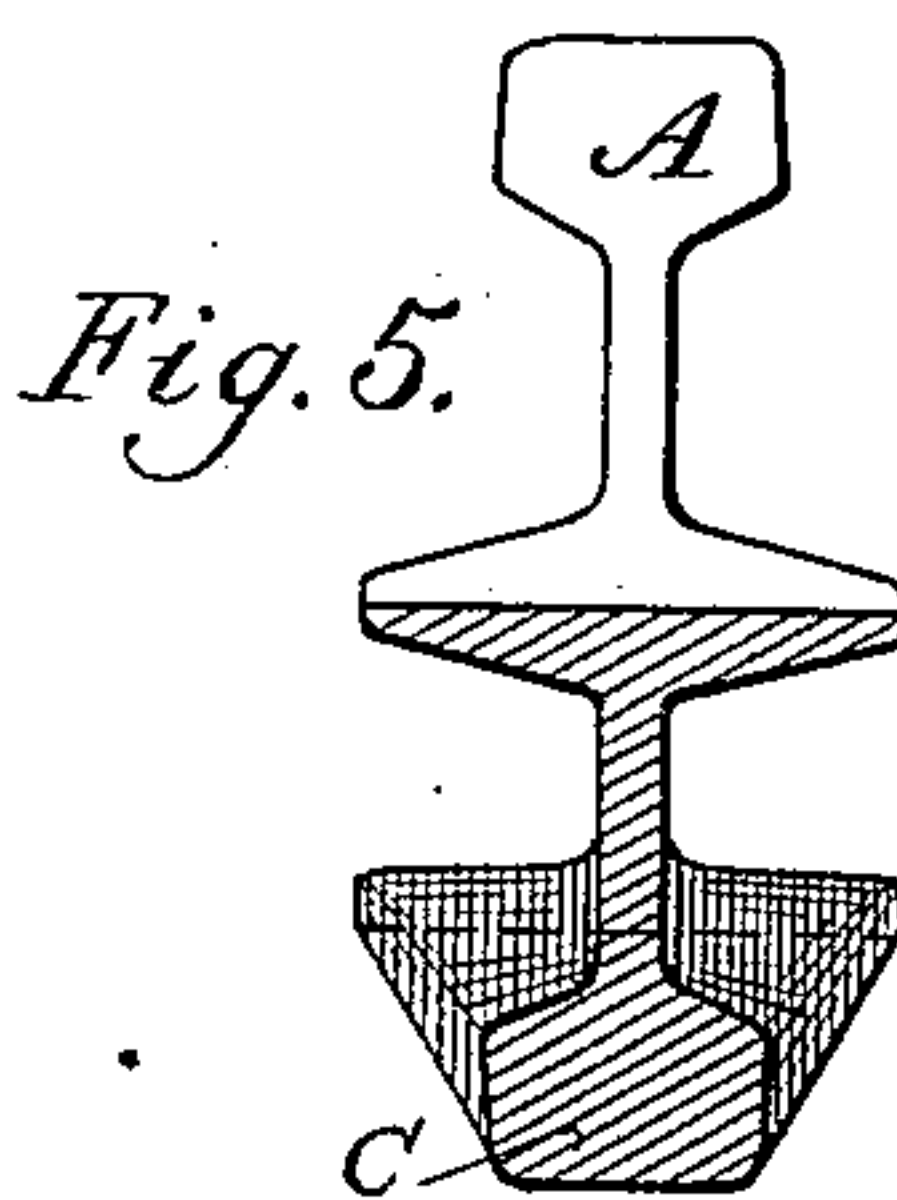


Fig. 5.

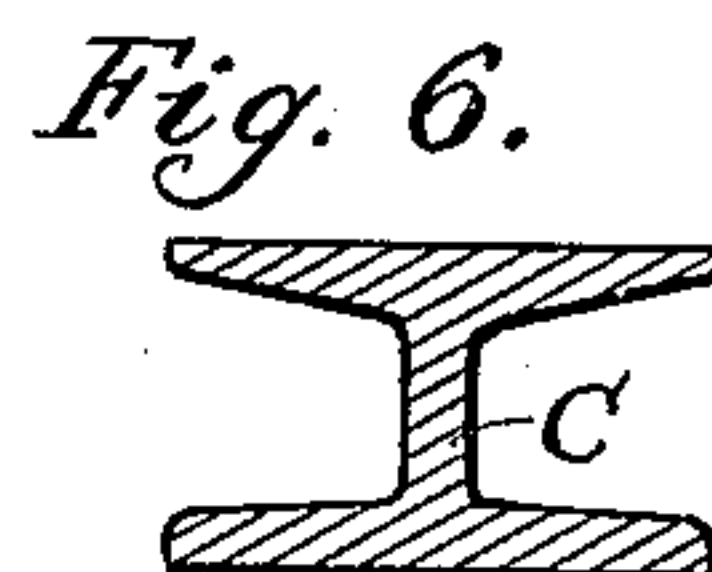


Fig. 6.

Witnesses:  
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# UNITED STATES PATENT OFFICE.

RICHARD PRICE MORGAN, JR., OF DWIGHT, ILLINOIS, ASSIGNOR TO THE  
MORGAN RAIL-JOINT COMPANY, OF SAME PLACE.

## RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 297,283, dated April 22, 1884.

Application filed December 1, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD PRICE MORGAN, Jr., a citizen of the United States, residing at Dwight, in the county of Livingston, State of Illinois, have invented certain new and useful Improvements in Railway-Rail Joints, of which I do hereby declare the following to be a full, clear, and exact description, sufficient to enable others skilled in the art to which said improvements appertain to make and use the same.

Referring to the accompanying drawings, in which like letters of reference designate like parts throughout, Figure 1 is an outside view of two abutting track-rails and of the improved joint for connecting them together. Fig. 2 is a similar inside view; Fig. 3, a detached view in plan, and Fig. 4, a front end elevation of the parts constituting the clamp for said joint. Figs. 5 and 6 are cross-section views on lines *x* and *y*, respectively, of Fig. 1, to illustrate the nature of the sub-rail.

The present invention is designed to improve the construction of the rail-joint set forth in Letters Patent No. 280,654, issued to me July 3, 1883; and it consists of certain peculiarities in structure and organization of the parts, which will first be fully described, and thereafter distinctly pointed out in claims following.

Beneath the abutting ends of the track-rails A, which are spiked to the cross-ties B, as usual, is arranged a sub-rail, C, the same being formed, preferably, from worn or "scrap" track-rail cut in lengths suitable to be sustained upon the cross-ties B adjacent to the joint. The head of the piece of track-rail to constitute the sub-rail C is swaged down at the ends, as shown, these flattened bearing ends to support the sub-rail being received within the rabbeted seats *a*, cut in the cross-ties B. The sub-rail C, when thus in position, has its upper face flush against the track-rails, so that a firm support of rigid and unyielding character is presented for the abutting ends of said track-rails, while by reason of the swaging of the ends of the sub-rail, as described, a corresponding reduction in the depth of the rabbets in the cross-ties is accomplished over what was necessary in my former patent, which re-

duction in depth of cut preserves the strength and durability of said cross-ties.

The clamp for securing the track and sub rails together consists of a loose jaw-piece, *d*, angularly cut to receive the adjoining webs of said rails, and provided about its exterior face with a groove or recess, into which sets the U-staple *e*. The jaw-piece may preferably be of cast-iron or steel for cheapness and durability, while the staple may be of wrought-iron or steel, as desired.

In applying the clamp the jaw-piece *d* is set against the outer adjoining webs of the track and sub rails, so as to lap over and under the same. The ends of the U-staple are passed through suitable holes in said track and sub rails, respectively, until the body of said staple bears snugly within the groove of the jaw-piece *d*, whereupon, by means of the wedge-keys *f*, which are driven into the slots *g* in the shanks of the staple *e*, the parts are drawn tightly together and the clamping of the rails at the joint securely effected. By making the clamp in separate parts, as described, instead of forging the same in one piece, as provided in my former patent, cheapness and easy replacement of defective parts are effected, and at the same time greater durability against strain and wear is promoted.

It will be readily understood that the sub-rail may be of other material than scrap track-rail, if preferred, which is also true of like changes in the materials of the other parts, my purpose herein being merely to mention what materials are deemed best or most available, although the invention, being dependent upon structure, would be wholly unaffected by any mere substitution of one substance for another.

In lieu of wedge-keys *f*, there may be clamp-nuts on the threaded ends of the U-staple, or other like fastening adopted.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The sub-rail C, having its bearing ends reduced or flattened, substantially as described.

2. The jaw-piece *d* and separate U-staple *e*, encompassing the same, the ends of said staple

being provided with suitable fastening means, whereby in co-operation the track and sub rails may be securely clamped together, substantially as set forth.

5 3. The combination, with the track-rails and cross-ties, of the sub-rail having reduced ends, the jaw-piece to receive the webs of said track and sub rails, the separate staple, and the fastening devices, (wedge-keys,) substantially  
10 as set forth.

4. The combination, with the track-rails

and cross-ties, of the sub-rail having reduced or flattened bearing ends, and the clamping devices for securely holding said rails together, substantially as set forth.

In testimony whereof witness my hand this 28th day of November, A. D. 1883. 15

RICHARD PRICE MORGAN, JR.

Witnesses:

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L. HOLMBOE.